Amendments In the Specification

Please replace the second full paragraph on page 4 with the following amended paragraph:

B1 Figure 3 is a block diagram of a single tap of a ~~one~~ four dimensional equalizer and far end cross talk canceller in accordance with the present invention.

Please replace the third full paragraph on page 4 with the following amended paragraph:

B2 Figure 4 is a block diagram of a single tap of a ~~four~~ one dimensional equalizer known in the prior art.

Please replace the abstract with the following:

A multidimensional equalizer and cross talk ~~canceler~~ canceller for a communication network that simultaneously removes far end cross talk (FEXT) and intersymbol interference (ISI) from a received signal. A multidimensional-pair channel is treated as a single multidimensional channel and a receiver in the communication network equalizes received signals through the use of the multidimensional equalizer. A decision feedback equalizer determines a multidimensional steepest descent gradient to adjust matrix coefficients. ~~that are proportional to estimates of~~

B3 Cont ~~$\frac{\partial e_n}{\partial Q_k^{i,j}}$, wherein $Q_k^{i,j} \leftarrow \left(Q_k^{i,j} \quad \mu \left(\frac{\partial e_n}{\partial Q_k^{i,j}} \right) \right)$~~

~~and~~

~~$$\frac{\partial e_n}{\partial Q_k^{i,j}} = 2 \left(Z_n^i \quad X_{n-p}^i \right) Y_{n-k}^j .$$~~

~~The equalizer includes:~~

~~a vector data unit delay operator that passes the received data vector Y_n through a series of unit delay operators to generate successive tap input data Y_n, Y_{n-1}, Y_{n-2};~~

~~a first matrix multiplication operator that receives a 1xN matrix Y_{n-k} from the unit delay operator and multiplies it with the Nx1 matrix of scaled vector error data $(Z_n - X_n)$ to generate a NxN adjustment matrix;~~

~~a matrix summation operator that adds the adjustment matrix to a Q_{n-k} tap matrix and outputs a corrected tap matrix Q_{n-k+1};~~

~~matrix tap unit delay operator that receives the corrected tap matrix Q_{n-k+1}, and introduces a one cycle delay to generate a Q_{n-k} tap matrix; and~~

B3 Cont

~~a second matrix multiplication operator that multiplies the Q_{n-k} tap matrix from the matrix tap unit delay operator by the Y_{n-k+1} vector from the vector data unit delay operator.~~